Math 9 Muscardin

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **Chapter 7 – Data Analysis**

Test Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

To do:

7.1 – Data Collection

* Complete Notes ⃝

7.2 – Samples

* Complete Notes ⃝

7.3 – Graphing Data

7.4 – Drawing Line Graphs

* Quiz ⃝

Chapter Assignment Handout ⃝

**Write Unit Test ⃝**

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**What is data??**

**Types of Data:**

Use the picture below for examples!



Qualitative data \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. For example:

Quantitative Data is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ information. It can be continuous or discrete. For example:



Continuous Data can use any value within a certain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and it is measured. For example:

Discrete Data uses only \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ values that we can count, not any number in a range. For example:

Data collection can be done in a variety of ways. Some examples are:

Math 9 **Lesson 7.2 - Samples** Muscardin

The entire set of items from which data are collected is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. For example:

If all members or items of the population are used or surveyed, then the data that is collected is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a portion or part of the population. It is usually selected because it is not economical with respect to time and money to use the entire population. When a population is large, sampling is used to gain information about the whole population.

The sample must be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of the population in order for us to make reliable conclusions about it.

A sample should be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. For a sample to be **random**, each member of the population should have an equal chance of being chosen. For a sample to be **unbiased** all groups of the population are fairly represented.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the difference between the results obtained by sampling and what the real truth is about the whole population.

**Examples:**

1. In the following example:
2. Identify the population
3. Determine whether a sample or population should be used

A farmer grows carrots and wants to know if they are ready to harvest.

1. A random sample of 50 students out of a school population of 750 was interviewed about their favourite type of movie. If 30 percent liked adventure movies best, approximately how many students in the school would likely have chosen adventure movies?

Sampling techniques can be divided into two categories:

1. Probability Sampling
2. Non-probability Sampling

**Probability Sampling**

Involves the random selection of individuals or items from a population. There are four main ways to select samples to represent a larger population under this category.

1. **Simple random sample** – The individuals or items that become part of the sample are randomly selected. There are a number of ways that this selection can take place. For example:
2. **Systematic sample** – every nth member of the population is selected. For example:
3. **Cluster sample** – every member of a randomly drawn subdivision or segment of the total population is selected. For example:
4. **Stratified random sample** – every member or different segments of the population has an equal chance of being selected. For example:

**Non-Probability Sampling**

Usually cheap and convenient but gives less reliable results and has little or no mathematical structure. There are two mains ways to select samples in this category.

1. **Convenience sample** – every convenient member of the population is selected. Little or no planning goes into the selection of the sample. For example:
2. **Sample of volunteers** – a researcher asks for volunteers on a particular questions he wishes to study. Only interested members of the population will participate in the sample. For example: